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Supportability Technology Development Needs

Kevin Watson

281-483-0971

Karen Thompson

321-867-7555



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Supportability Challenges

- In-Flight Operations

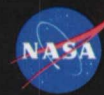
- Reduce logistics footprint required to support long-duration missions – reduce mass and volume of spares and support equipment

- Enhance mission autonomy and robustness

- Reduce Life Cycle Cost

- Ground Operations

- Reduce Life Cycle Cost



Diagnostic Systems

- Technology Needs:

- Electronic systems diagnosis

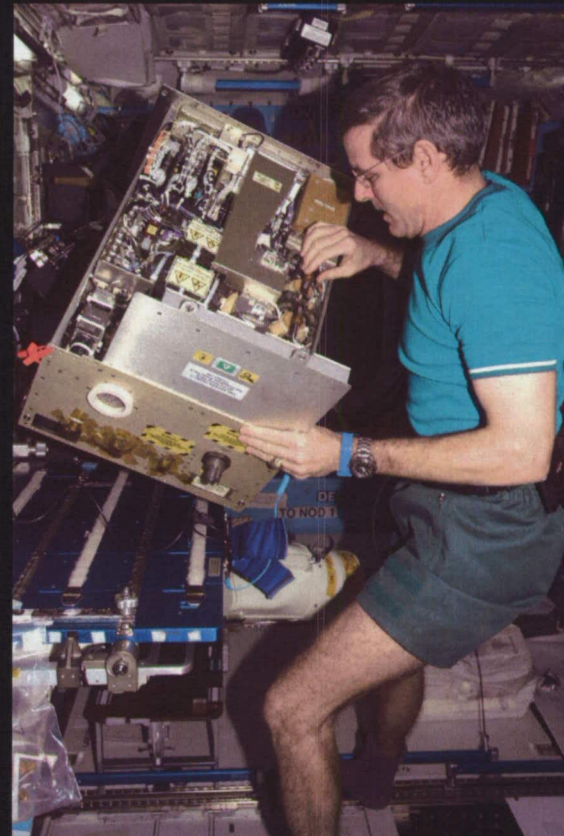
- » Clear diagnosis with minimal ambiguity
 - » Compact, low-mass diagnostic hardware
 - » Multi-function diagnostic units – minimum number of discreet pieces of diagnostic equipment
 - » Straightforward interpretation of results



Spacecraft System Repair



- Drive repair to lowest practical hardware level
- Enable manufacturing of selected parts
- Maximize reconfigurability
- Maximize reusability





Power, Communications, Avionics, Informatics (PCAI)

- Technologies:

- High energy density, safe rechargeable batteries (ETDP Power Project)

- Miniaturized Rad Hard electronics for PCAI

- Heads up and on cuff displays

- Radio and Navigation technologies for Lunar missions





EVA Support Equipment

- Technologies:
 - Suit ports
 - Suit locks
 - Air locks
 - Recharge systems (power, water, O₂)
 - Dust removal
 - Human-robotics interfaces

